AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A precipitation hardened Co-Ni based heat-resistant alloy ~~comprising~~ consisting of by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr;

the balance of Co and inevitable impurities;

the alloy having a structure consisting of:

a fine twin structure having an average grain size of several microns;

a parent phase; and

Co_3Mo or Co_7Mo_6 having sizes from several microns to several tens of nanometers and precipitated at boundaries of the fine twin structure and the parent phase~~,~~

~~wherein the alloy has a creep elongation of 2.9% or less when the alloy is subjected to a creep test in which a stress of 330 MPa is applied thereto at 700°C and the elongation is measured 1000 hours later~~.

2. (Currently Amended) A precipitation hardened Co-Ni based heat-resistant alloy ~~comprising~~ consisting of by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe; 0.1 to 3.0% of Ti;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr;

the balance of Co and inevitable impurities;

the alloy having a structure consisting of:

a fine twin structure having an average grain size of several microns;

a parent phase; and

Co_3Mo or Co_7Mo_6 having sizes from several microns to several tens of nanometers and precipitated at boundaries of the fine twin structure and the parent phase~~,~~

~~wherein the alloy has a creep elongation of 2.9% or less when the alloy is subjected to a creep test in which a stress of 330 MPa is applied thereto at 700°C and the elongation is measured 1000 hours later~~.

3. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment; and

subjecting the alloy to an aging heat treatment at 600 to 800°C for 0.5 to 16 hours in a condition of applying stress, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.

4. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe; 0.1 to 3.0% of Ti;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010 % of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment; and

subjecting the alloy to an aging heat treatment at 600 to 800°C for 0.5 to 16 hours in a condition of applying stress, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.

5. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment;

subjecting the alloy to a cold working or a warm working having a reduction ratio of not less than 40%; and

subjecting the alloy to an aging heat treatment at 600 to 800°C for 0.5 to 16 hours in a condition of applying stress, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.

6. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe; 0.1 to 3.0% of Ti;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment;

subjecting the alloy to a cold working or a warm working having a reduction ratio of not less than 40%; and

subjecting the alloy to an aging heat treatment at 600 to 800°C for 0.5 to 16 hours in a condition of applying stress, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.

7. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising by weight:

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment;

subjecting the alloy to a cold working or a warm working having a reduction ratio of not less than 40%; and

subjecting the alloy to an aging heat treatment at 800°C to 950°C for 0.5 to 16 hours, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.

8. (Withdrawn) A production method for precipitation hardened Co-Ni based heat-resistant alloy, the method comprising the steps of:

preparing an alloy comprising: all by weight,

not more than 0.05% of C; not more than 0.5% of Si; not more than 1.0% of Mn; 25 to 45% of Ni; 13 to 22% of Cr; 10 to 18% of Mo or 10 to 18% of Mo + 1/2W; 0.1 to 5.0% of Nb; 0.1 to 5.0% of Fe; 0.1 to 3.0% of Ti;

at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr; and

the balance of Co and inevitable impurities;

subjecting the alloy to a solid solution heat treatment;

subjecting the alloy to a cold working or a warm working having a reduction ratio of not less than 40%; and

subjecting the alloy to an aging heat treatment at 800°C to 950°C for 0.5 to 16 hours, thereby forming a fine twin structure in a parent phase, and precipitating Co_3Mo or Co_7Mo_6 at a boundary of the fine twin structure and the parent phase.